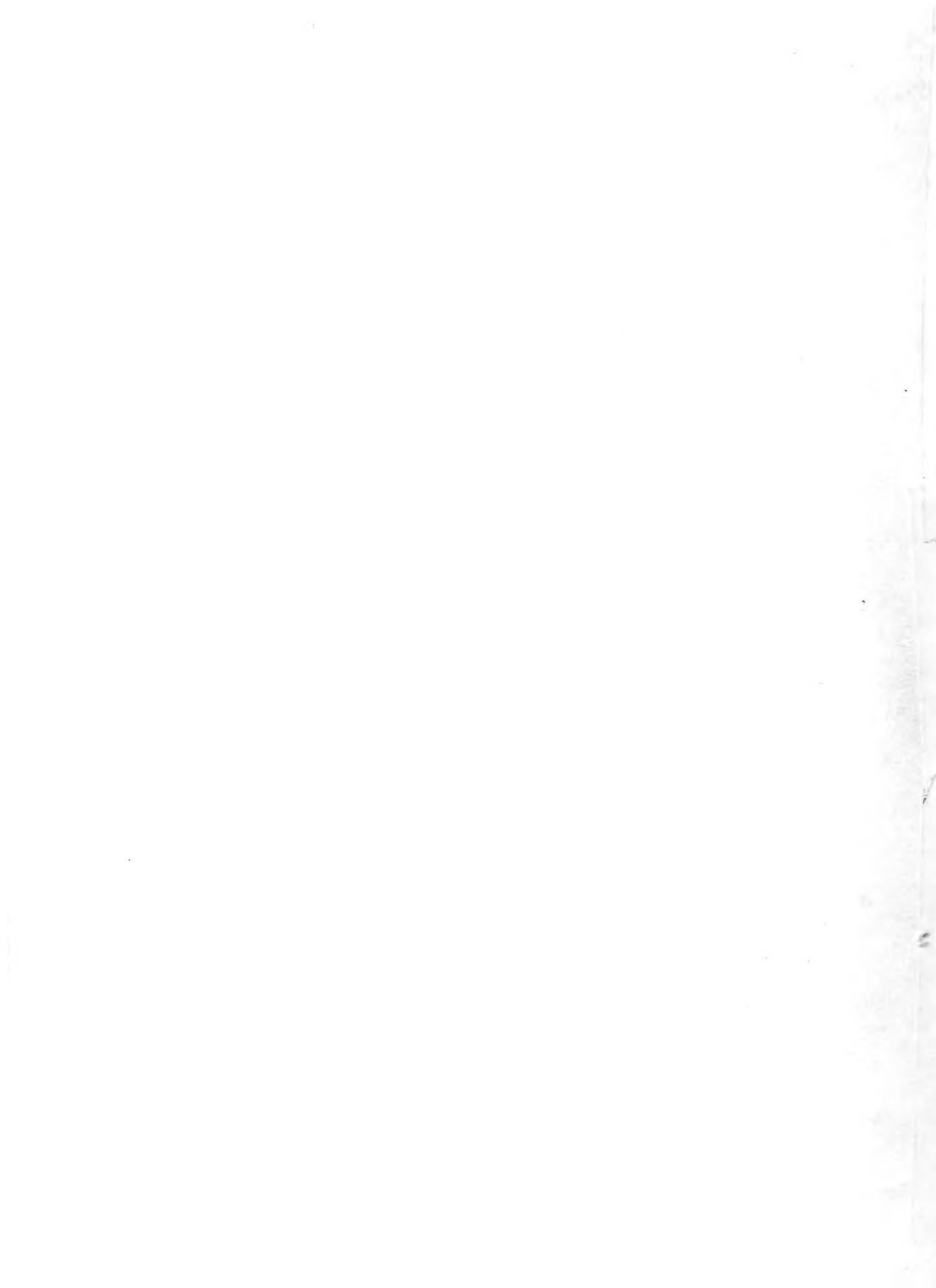


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A METHOD FOR COUNTING GRASSHOPPER NYMPHS

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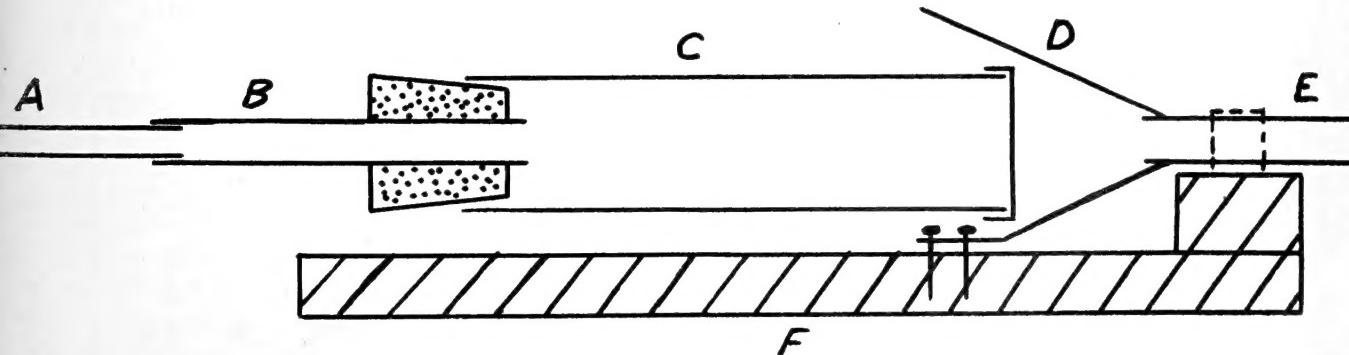


In our laboratory work it is frequently necessary to count out definite numbers of grasshoppers or to isolate one species from mixed populations. This is particularly difficult with the young and very active nymphs. A simple method has been devised for rapidly and accurately counting nymphs of the first, second, and third instars. A sketch depicting the apparatus used is presented herewith.

A glass nozzle (A) is used, since it does not disturb the nymphs. This is connected with a rubber tube (B) extending through a cork plugging one end of the receiving chamber (C), which in this case is a glass tube about 1 by 8 inches. The other end of the chamber is covered with a piece of cheesecloth held by rubber bands. The chamber may be inserted as desired into a rubber funnel (D), which is made by rolling up a piece of automobile inner tube and gluing it together. Rubber tubing (E) connects this funnel with a source of suction, such as an air pump or aspirator. Rubber tube B is fastened to the cork with an adhesive sold as "liquid solder", the funnel is glued together with the same material, and the funnel and tube E are likewise glued together. The funnel is nailed to a wooden base (F), and tube E is secured by a piece of tape which passes over the tube and is nailed to the base.

Receiving chamber C can be rapidly emptied by pulling it out of the funnel, shaking the accumulated hoppers to the cloth-covered end of the chamber, removing the cork, and shaking the tube over another container.

The nymphs are not at all injured by this method of handling, and very few escape. The container from which the nymphs are being counted is placed in a cubical cage about 3 feet on a side, enclosed, except on the operator's side, with wire screen, and placed near a window so that escaping nymphs are drawn to the side of the cage opposite from the operator and can be recovered later.



Apparatus used as an aid in counting grasshopper nymphs

